United States Department of Agriculture
Natural Resources Conservation Service

Conservation Stewardship Program
2012 Ranking Period 1

WQT07 – Delaware Supplement– REVISED 3/5/12

Water Quantity Enhancement Activity – Regional weather networks for irrigation scheduling

Delaware Clarification

A certified crop advisor or equivalent professional is required to develop the Irrigation Water Management (IWM) plan and implement this enhancement. IWM plan must be reviewed by NRCS in the initiation year.

Delaware Specifications

1. A subscription to a regional weather network that supplies crop ET values for irrigation scheduling. Evapo-transpiration rates as provided by the Delaware Environmental Observing System (DEOS) (http://www.deos.udel.edu/) are acceptable for this purpose.

2. The crop ET information from the network must be used as part of the irrigation water management plan to match water application rates and timing to the needs of the crops and soils.

3. This enhancement is considered adopted when:
   a) the applicant has a valid subscription to a regional weather service,
   b) has developed an Delaware IWM plan based on the ET data from the regional weather network and
   c) a record of irrigation events based on the ET data from the regional weather network and use of scheduling software.

Delaware Irrigation Water Management Plan Requirements

1. Farm and field information including producer, farm, tract and field numbers and boundaries, planned rotation, consultant, and plan date;
2. Objectives of the producer, which includes one of the purposes of the standard;
3. Irrigation system map, showing the reaches of irrigation system and the location of soil moisture monitoring stations;
4. Soils map and soil profile description of dominant soil series;
5. Past irrigation history;
6. Water supply source and well yield;
7. Results of soil and irrigation water testing;

8. Provide well permit number and supporting data (drill logs, depth to groundwater, depth of well, location and type of pump, etc.), water allocation permit provided.
9. Identify the type of budget and soil moisture devices that will be utilized;
10. The system design will be referenced in the irrigation water management report and will include information on the system design pressure, flow quantity (in gallons per minute), and a system curve. When the system is new or has been re-tipped, the tip or nozzle specification chart shall be provided in an appendix to the IWM report;
11. A statement that irrigation system uniformity was determined by the University of Delaware, Cooperative Extension, and a report was given to NRCS;
12. Participating producer must maintain records to allow the certifying individual to document plan implementation. As applicable, records include the following:
    a) Show pumping capacity and water quantity determination on all systems.
    b) Statement of how the system flow rate was determined.
    c) Records to show how system uniformity of application was measured.
    d) Provide a written statement annually detailing the findings of a visual inspection performed during operation, to determine that components are properly functioning, including but not limited to pressure gages, flow meter, and backflow preventer.
    e) Documentation on how the plant available water determination was made based on soil profile information and crop rooting depth.
    f) Written documentation of a Daily Irrigation Balance Sheet that includes a report of the plant available water status, including all rainfall and irrigation amounts. Documentation of M.A.D. for crop grown when determining irrigation events is provided. The decisions to irrigate are based on daily water budget spreadsheet or water management software. A daily record of evapo-transpiration rates must be provided to NRCS. Include an adjustment coefficient (Kc) to correct ET rates for specific crops grown. Evapo-transpiration rates and available water capacity of the soil are used to determine irrigation events.
    g) Each irrigation event must reference the mechanical or electrical soil moisture monitoring devices and measurements or readings used to monitor moisture depletion and determine when to irrigate crops.
    h) Other supportive data as necessary is provided to NRCS.
    i) Visual inspection statement.

Incompatible Enhancements

This enhancement may not be contracted with the following enhancements:
ANM21

Eligible Land

Irrigated Cropland or Pastureland

Applicable Amount
Acres of annually irrigated cropland or pastureland only.

Example (System)
If a participant has 300 acres of irrigated cropland and he/she was willing to incorporate Regional Weather Networks for Irrigation Scheduling on all the cropland acres, the applicable acres would be 300 acres and the applied acres would be 300, commencing in Year 2. IWM plan will cover all acres identified each year of the contract. The Toolkit plan would look like the following:

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
WQL13		300	300	300	300

Documentation Requirements

1. Documentation of subscription to a regional weather network.
2. An IWM plan showing the use of the crop ET data from a weather network in irrigation scheduling.
3. A record of actual irrigation events based on the ET data from the weather network and use of scheduling software.

I acknowledge that I have read and understand all that is required for the implementation of this CSP Enhancement Activity.

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Contract participant Date